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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,405	11/28/2003	Takashi Suzuki	000409-073	7172

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EXAMINER	
SCHINDLER, DAVID M	
ART UNIT	PAPER NUMBER
2862	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/722,405	SUZUKI ET AL.	
	Examiner	Art Unit	
	David Schindler	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-16 and 20-22* is/are rejected.

7)☒ Claim(s) *17-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the communication received 8/29/2005.

2. Upon further consideration, the allowance of claim 15 is withdrawn. A rejection follows.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Varterasian (3,060,370).

Varterasian discloses a first yoke including a main body portion (12) and a projecting portion (13) extending from the main body in a direction at right angles to the main body, the projecting portion possessing a tip end (Figure 1), a first magnet (10) disposed at one end of the main body (Figure 1), the first magnet possessing a north end and a south end (Figure 1), a second magnet (11) disposed at an opposite end of the main body (Figure 1), the second magnet possessing a north end and a south end (Figure 1), a second yoke (14) positioned so that a space exists between the second yoke and the tip end of the projecting portion (Figure 1), a magnetic detecting element (15) disposed in the space between the second yoke and the tip end of the projecting portion (Figure 1), first magnetic flux from the first magnet travels from the north end of the first magnet towards the second yoke ((Figure 1) and (Column 2, Lines 1-22)), then

flows back to the south end of the first magnet via the magnetic detecting element and the projecting portion ((Figure 1) and (Column 2, Lines 1-22)), second magnetic flux from the second magnet travels from the north end of the second magnet towards the second yoke via the projecting portion and the magnetic detecting element ((Figure 1) and (Column 2, Lines 1-22)), then flows back to the south end of the second magnet ((Figure 1) and (Column 2, Lines 1-22)), lines of magnetic flux from the first magnet flow in an opposite direction to lines of magnetic flux from the second magnet at the magnetic detecting element ((Figure 1) and (Column 2, Lines 1-22)), the magnetic fluxes from the first and second magnets passing through the magnetic detecting element are cancelled with each other when the magnetic body is positioned at a place near or adjacent to the position detecting sensor at which the first magnetic flux passes through the magnetic body ((Figure 1) and (Column 2, Lines 1-22) and (Column 2, Lines 60-72)), the magnetic flux passing through the magnetic detecting element becomes substantially greater than a predetermined threshold value when the magnetic body is positioned away from the position detecting sensor ((Figure 1) and (Column 2, Lines 1-22) and (Column 2, Lines 60-72) and (Column 3, Lines 1-2)).

Note that as armature (16) is moved away (displaced) the voltage will be non-zero.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. (EP 916953) in view Geotz et al. (6,160,395),

Gotoh et al. discloses a first magnet (41) having a first pole ((S) of (41)) and a second pole ((N) of (41)), a second magnet (31) having a first pole ((S) of (31) and a second pole ((N) of (31)) and positioned near the first magnet (Figure 1), the first pole of the second magnet facing the second pole of the first magnet (Figure 1), the first pole of the first magnet being the same as the first pole of the second magnet and the second pole of the first magnet being the same as the second pole of the second magnet (Figure 1), and a magnetic detecting element (the combination of (2) and (1)) in the vicinity of the first and second magnets (Figure 1), wherein a magnetic flux density detected in a zone including the magnetic detecting element while a detected body is away from the position detecting sensor more than a predetermined distance is greater than a magnetic flux density detected in the zone while the detected body is positioned near at least one side of the position detecting sensor by the predetermined distance

((Column 3, Lines 35-58) and (Column 5, Lines 6-36), the third yoke is separated from the second pole of the second magnet by a predetermined distance (Figure 1).

Gotoh et al. does not disclose the third yoke has substantially the same feature as the detected body with respect to magnetic permeability.

Geotz et al. discloses a yoke (Figure 5) made of ferrite ((Column 4, Lines 8-24) and (Column 4, Lines 62-67)), and a detected body (64) made out of ferrite (Column 5, Lines 14-16)).

It would have been obvious to a person of ordinary skill in the art to modify Gotoh et al. to include the third yoke has substantially the same feature as the detected body with respect to magnetic permeability given the above disclosure and teaching of Geotz et al. in order to have an evenly distributed flow of magnetic flux.

8. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Varterasian (3,060,370) in view of Gotoh et al. (EP 916953).

As to Claim 20,

Varterasian discloses as explained above.

Varterasian does not disclose the first and second magnets at both ends of the main body differ from each other in at least one dimension.

Gotoh et al. discloses the first and second magnets at both ends of the main body differ from each other in at least one dimension (Figure 1).

It would have been obvious to a person of ordinary skill in the art to modify Varterasian to include the first and second magnets at both ends of the main body differ

from each other in at least one dimension as taught by Gotoh et al. in order to reduce the amount of material use and thus reduce the device cost.

As to Claim 21,

Varterasian does not disclose the at least one dimension is a thickness of the first and second magnets in an extending direction of the main body of the first and second yoke.

Gotoh et al. discloses the at least one dimension is a thickness of the first and second magnets in an extending direction of the main body (32) of the first and second yoke (Figure 1).

It would have been obvious to a person of ordinary skill in the art to modify Varterasian to include the at least one dimension is a thickness of the first and second magnets in an extending direction of the main body of the first and second yoke as taught by Gotoh et al. in order to reduce the amount of material use and thus reduce the device cost.

As to Claim 22,

Varterasian does not disclose the at least one dimension is a length perpendicular to an extending direction of the main body of the first yoke.

Gotoh et al. discloses the at least one dimension is a length perpendicular to an extending direction of the main body of the first yoke (Figure 1).

It would have been obvious to a person of ordinary skill in the art to modify Varterasian to include the at least one dimension is a length perpendicular to an

extending direction of the main body of the first yoke as taught by Gotoh et al. in order to reduce the amount of material use and thus reduce the device cost.

Allowable Subject Matter

9. Claims 17, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is an examiner's statement of reasons for allowance:

As to Claim 14,

The primary reason for the allowance of claim 14 is the inclusion of the third yoke is positioned in parallel with the extending direction of the projecting portion. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

As to Claim 17,

The primary reason for the allowance of claim 17 is the inclusion of a third yoke positioned parallel with the projecting portion. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Schindler
Examiner
Art Unit 2862

DS

11/14/05
JAY M. PATEL
PRIMARY EXAMINER